2. Alignment and Adjustments

2-1 Service Mode

2-1-1 SERVICE MODE Entry Method (General Transmitter)

■ For the General Transmitter

1. Turn the power off and set to stand-by mode.
2. Press the buttons of the transmitter in this order; Info-Menu-Mute-Power to turn the set on.
3. The set turns on and enters service mode.

* If you fail to enter service mode, repeat steps 1 and 2 above.

2-1-2 Initial DISPLAY State of SERVICE MODE

2-1-2(A) OSD DISPLAY

SERVICE MAIN

1. VSP9437-1
2. VSP9437-2
3. FLI2300
4. ASI500-1
5. ASI500-2
6. DNIe
7. AD9888
8. CXA2151
9. CXA2101
10. LOSIC
11. TP LOG-ASI
12. Option
13. CheckSum 0000
14. Reset

Release : 2003-05-02 M_NNWS42M6_100

2-1-2(B) Button Operations in SERVICE MODE

Menu	Displays all menus
UP/DOWN Key	Cursor move to select items
LEFT/RIGHT Key	Enable to increase and decrease the data of the selected items

2-1-3 Factory Data Initial Value

VSP9437-1 (VIDEO)				VSP9437-2		FLI2300	
V PEAKING	16	PAL 60	27	V PEAKING	16	Y DELAY	05
HPLL SPEED	00	PAL M/N	01	HPLL SPEED	01	C DELAY	12
RGB/YUV CONTRAST	35	PAL	01	PAL	01	CONTRAST	90
RGB/YUV BRIGHTNESS	00	SECAM	27	SECAM	27	BRIGHTNESS	185
YUV SATCB	26	NTSC	01	NTSC	01	SATURATION	110
YUV SATCR	26	NTSC 4.43	27	PAL AV	01		
PAL B/G	01	PAL 60	27	SECAM AV	27		
PAL D/K	01	NR	01	NTSC AV	01		
PAL I	01						
SECAM B/G	27						
SECAM D/K	27						
SECAM L'/L	27						
NTSC M	01						
NTSC 4.43	27						

ASI500I VIDEO/PC,DVI)				ASI500II	
R CONTRAST	32/30	FILTER YPASS	00	PIP R CONTRAST	32
G CONTRAST	32/30	R GAMMA	32	PIP G CONTRAST	32
B CONTRAST	32/30	G GAMMA	32	PIP B CONTRAST	32
R BRIGHTNESS	00	B GAMMA	32	PIP R BRIGHTNESS	00
G BRIGHTNESS	00	H POSITION	00	PIP G BRIGHTNESS	00
B BRIGHTNESS	00	V POSITION	00	PIP B BRIGHTNESS	00
TEXT ALPHA	01	H SIZE	00	PIP FILTER IC	00
TEXT THRESHOLD	07	V SIZE	00	PIP FILTER ML	00
FILTER ML	00	OVERSCAN R	50	PIP FILTER MR	00
FILTER MR	00	OVERSCAN G	50	PIP FILTER UC	00
FILTER FR	00	OVERSCAN B	50		
FILTER MC	16				
FILTER UC	00				
FILTER LC	00				

DNIe (VIDEO / PC, DVI)				AD9888 (VIDEO / COMP/ PC)	
BRIGHT OFFSET	Attachment	BLUE CONPENSA	616	R GAIN	71/128/83
CONTRA OFFSET	Attachment	WTE GAIN	58	G GAIN	77/122/81
NR SCALE MAX	64	RAST VSIZE	1023	B GAIN	95/128/81
NR SCALE MIN	18	RAST HSIZE	895	R, CR OFFSET	63/79/64
DE GAIN COR	03	SHARP OFFSET	40	G, Y OFFSET	66/53/70
DE GAIN CLIP	60/90	CLK DLY	16	B, CB OFFSET	64/82/68
CE UPPER	240	H_POSI	28	VIDEO PATH	PC
CE CUTOFF	64			AUTO COLOR	OFF
CE GAIN	48				
WTE Y THRE	230				
R CTL	02				
SYNC MODE	01				
PATT SEL	01				
RED CONPENSA	616				

CXA2101 (VIDEO / COMP)				CXA2151	
PICTURE	20/20	SUB-BRIGHT	32/32	GAIN SEL	01
HUE	31/31	CR-OFFSET1	07/07	CB GAIN	07
COLOR	16/16	CB-OFFSET1	07/07	CR GAIN	07
BRIGHT	61/61	SUB-CONT	08/06	Y GAIN	01
SHARPNESS	16/16	SUB-COL	08/08	HFREQ	00
R-DRIVE	04/04	SUB-HUE	08/08		
G-DRIVE	04/04	R-Y/R	13/13		
B-DRIVE	04/04	R-Y/B	15/15		
R-CUTOFF	32/32	G-Y/R	12/12		
G-CUTOFF	32/32	G-Y/B	04/04		
B-CUTOFF	32/32				

LOGIC (PDP DRIVER)			
R DRIVE	Attachment	ACTIVE V POS	12
G DRIVE	Attachment	ACTIVE H POS	19
B DRIVE	Attachment	V SYNC POS	03
R CUTOFF	Attachment	H SYNC POS	32
G CUTOFF	Attachment	V SYNC WIDTH	02
B CUTOFF	Attachment	H SYNC WIDTH	12
GAMMA	01		
GTS SET	01		
ERD MODE	02		
RANDOM NOISE	00		
DIFF FILTER	01		
APC	01		
APC SET	00		
APC VALUE	127		
TP LOG-ASI (TEST PAT LOGIC/SCALER)		OPTION	
LOG PATTERN	00	PIXEL SHIFT	V
LOG HIGH LEVEL	00	SHIFT TEST	OFF
LOG LOWLEVEL	00	PIXEL NMBER	02
ASI COLORBAR	00	SHIFT LINE	04
		SHIFT TIME	04
		RGB DNIe	ON
		DNIe DEMO	OFF
		DNIe THROUGH	OFF
		VIDEO MUTE	00
		OPTION 11	00
		MDC ENABLE	OFF
		LAST MEMORY	ON

■ Attachment

IC	ITEM	W/B Data			
		Video,S-VHS	Component	PC	DVI
SNI	Bright	249	13	3	255
	Contrast	240	6	249	0
Logic	R Gain	166	151	140	151
	G Gain	130	130	130	130
	B Gain	124	113	110	111
	R Cutoff	255	255	0	02
	G Cutoff	0	0	0	0
	B Cutoff	255	0	0	02

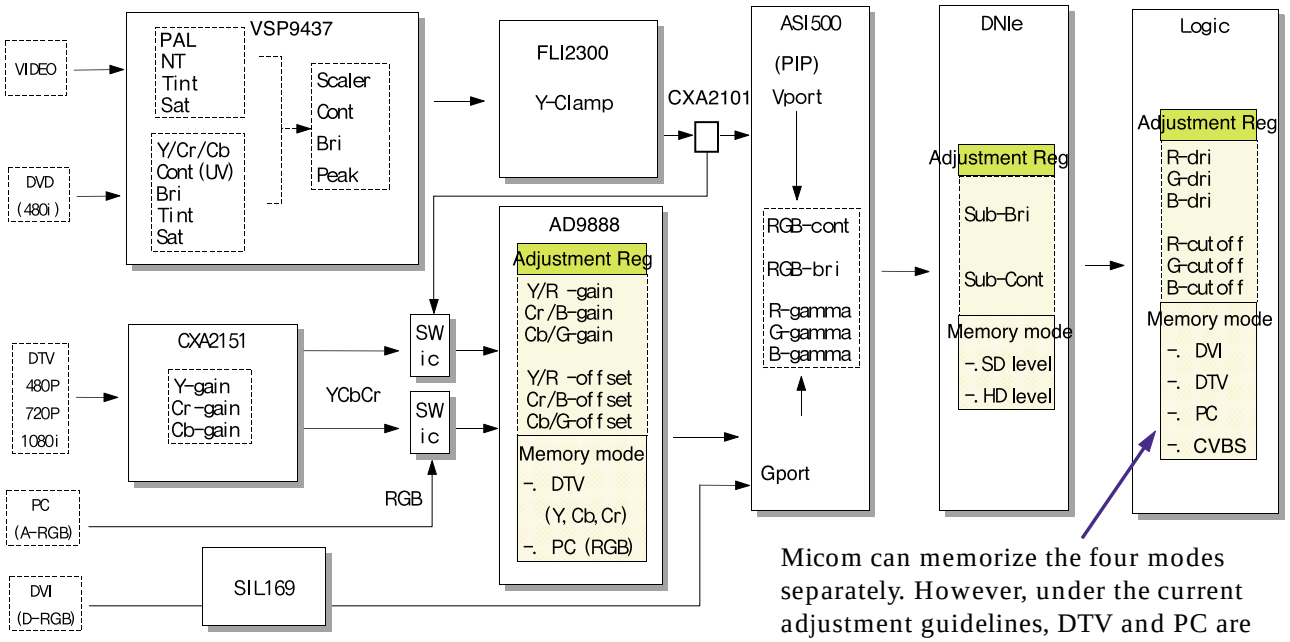
Alignment and Adjustments

2-2 WHITE Balance Coordinates

2-2-1 White Balance Adjustment

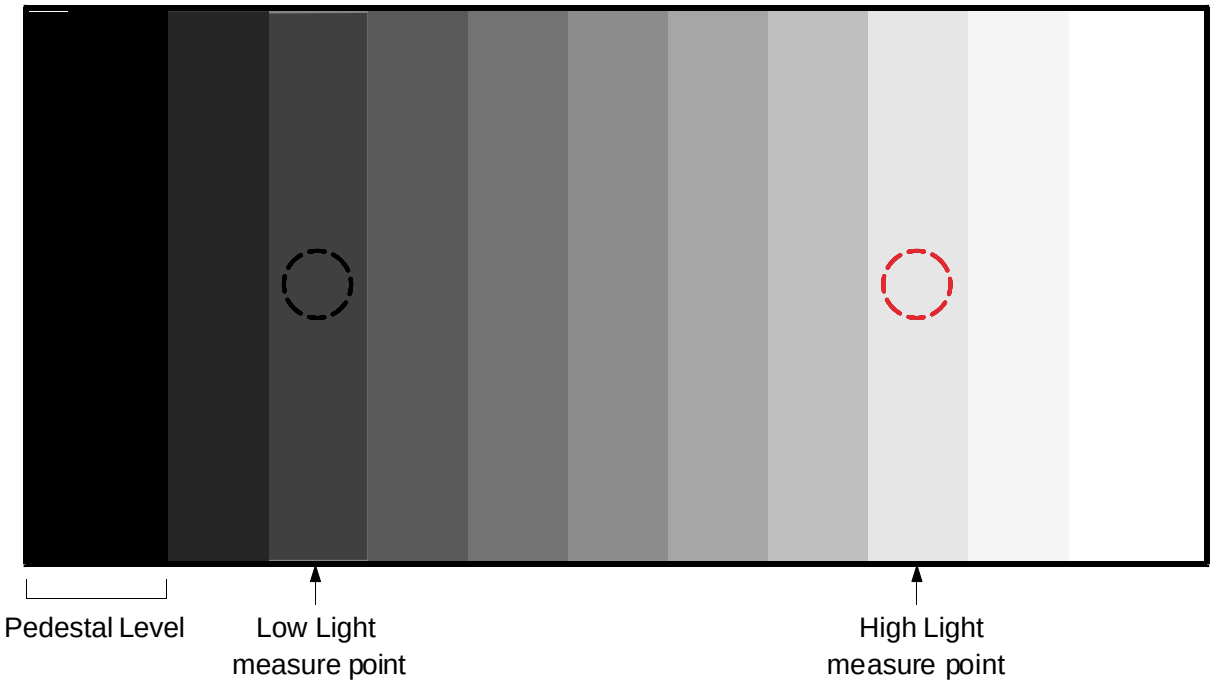
1. W/B Adjustment is required for the following four modes: DVI → DTV → PC → CVBS(VIDEO) → CVBS(VIDEO PIP)
2. Adjustment Method (DVI, DTV, PC : VG828, CVBS : Adjust RF signals to match the Toshiba pattern (in-house signal)
   - ① Adjust the target set by adjusting the panel logic and the video DNIe adjustment register in register in order to determine the referential W/B of the panel with a DVI input, which is the full digital path.
   - ② For DTV adjustment, adjust the adjustment register of ad9888 to align the DTV signal to the DNIe and logic panel value which was fixed with a DVI adjustment so that they are in effect considered to be the same signals. (At this time, do not adjust the gain of AD9888 → the Highlight W/B does not need to be adjusted since its deviation falls within valid distribution range.)
   - ③ PC adjustment is same as DTV adjustment. (The offset can be applied to the values obtained through DTV adjustment. However, additional adjustment is required for Y, Cb, and Cr of DTV since PC processes R, G, and B signals.)
   - ④ cvbs adjustment is performed with the Toshiba pattern (in-house signal) and differs from the VG828 signals in the above three modes. Hence, it should be performed with the same method of ① DVI adjustment.
   - ⑤ Finally, activate PIP in video mode, and repeat W/B adjustment.

❋ Thus, Micom saves the W/B data separately for each memory mode of the block (See the block diagram given below) during W/B adjustment.



Micom can memorize the four modes separately. However, under the current adjustment guidelines, DTV and PC are memorized with the same value during DVI adjustment and CVBS is memorized with a separate value.

2-2-2 White Balance Coordinates by Mode



		DVI	DTV COMPONENT (480P, 720P, 1080i)	PC	VIDEO
H/L	x	285	285	285	285
	y	295	295	295	295
	Y(fL)	34	36.5	21.0	37
L/L	x	285	285	285	285
	y	300	300	300	295
	Y(fL)	1.0	1.0	0.9	1.2

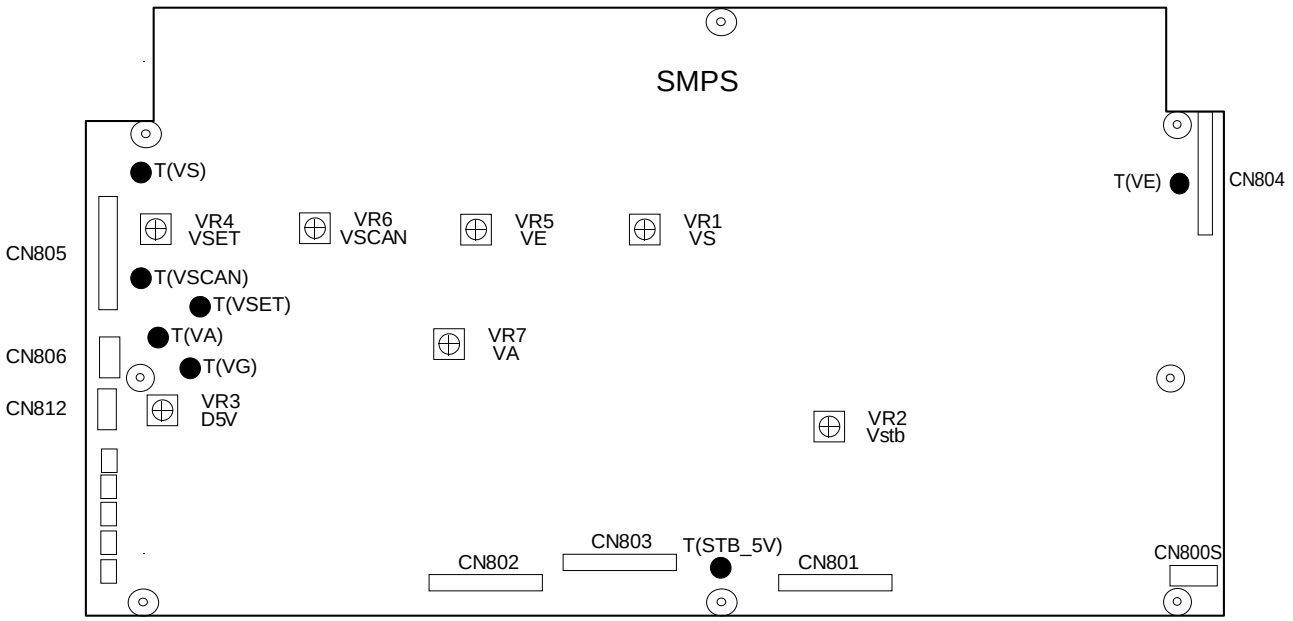
- Pattern Used in Adjustment : 10 Steps Gray scale pattern

2-3 Voltage Adjustment

● Turning the variable resistor(VR) adjusts voltage.

T : Test Point

VR: Variable Resistor



OUTPUT	Voltage(V)
VA	See the labels attached on the base chassis.
VSCAN(VSC)	
VS	
VE	
VSET	
D5V	+5V
STB_5V	+5V
VG	+15V

MEMO